

Rpt. 4b.

AUXILIARY ENGINES. REPORT ON OIL ENGINE MACHINERY.

NEWCASTLE-ON-TYNE

No. 74783

No. 11

Date of writing Report

When handed in at Local Office

Port of Winterthur

No. in Survey held at Winterthur

Reg. Book.

Date, First Survey 20th July 1920 Last Survey 19

Number of Visits

Single }
on the Twin } Screw vessels
Triple }

Master Built at Newcastle on Tyne By whom built Sir W. G. Armstrong

Engines made at Winterthur By whom made Sulzer Freres S.A. Engine Nos. 2243 When made 1921.

Donkey Boilers made at By whom made Boiler No. When made

Brake Horse Power 200 (2 Engines) Owners Port belonging to

Nom. Horse Power as per Rule 42 (2 Engines) Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

IL ENGINES, &c.—Type of Engines 2 Sets of Auxiliary Diesel Oil Engines or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 42 ATs. No. of cylinders 4 No. of cranks 4 Diameter of cylinders 200 mm

Length of stroke 300 mm Revolutions per minute 300 Means of ignition Temperature due to Compression Kind of fuel used Heavy fuel oil

Is there a bearing between each crank Yes Span of bearings (Page 92, Section 2, par. 7 of Rules) 260 mm

Distance between centres of main bearings 400 mm Is a flywheel fitted Yes Diameter of crank shaft journals as per Rule 121.7 mm as fitted 125 mm

Diameter of crank pins 125 mm Breadth of crank webs as per Rule 162 mm as fitted 180 mm Thickness of ditto as per Rule 68 mm as fitted 69 mm

Diameter of flywheel shaft as per Rule 121.7 mm as fitted 125 mm Diameter of tunnel shaft as per Rule Diameter of thrust shaft as per Rule

Diameter of screw shaft as per Rule Is the screw shaft fitted with a continuous liner the whole length of the stern tube

Is the after end of the liner made watertight in the propeller boss If the liner is in more than one length are the joints burned

If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

If two liners are fitted, is the shaft lapped or protected between the liners If without liners, is the shaft arranged to run in oil

Type of outer gland fitted to stern tube Length of stern bush Diameter of propeller

Pitch of propeller No. of blades state whether moveable Total surface square feet

Method of reversing Hot reversible a governor or other arrangement fitted to prevent racing of the engine when declutched yes Thickness of cylinder liners 22 mm

Are the cylinders fitted with safety valves yes Means of lubrication Forced lubrication Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material yes If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

within the vessel No. of cooling water pumps Auxiliary Each Eng. Single Acting Is the sea suction provided with an efficient strainer which can be cleared

Can one be overhauled while the other is at work yes No. of bilge pumps fitted to the main engines 1 Each Eng. Diameter of ditto 80 mm Stroke 70 mm

Sizes of pumps No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room

and in holds, etc. No. of ballast pumps How driven Sizes of pumps

Is the ballast pump fitted with a direct suction from the engine room bilges State size Is a separate auxiliary pump suction fitted in

Engine Room and size Are all the bilge suction pipes fitted with roses Are the roses in Engine Room always accessible

Are the sluices on Engine Room bulkheads always accessible Are all connections with the sea direct on the skin of the ship

Are they valves or cocks Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates

Are the discharge pipes above or below the deep water line Are they each fitted with a discharge valve always accessible on the plating of the vessel

Are all pipes, cocks, valves and pumps in connection with the machinery accessible at all times Are the bilge suction pipes, cocks and valves arranged so as to prevent any

communication between the sea and the bilges Is the screw shaft tunnel watertight Is it fitted with a watertight door

worked from If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

No. of main air compressors 1 Each Eng. No. of stages 3 Diameters 225/200/50 Stroke 160 Driven by Crank shaft

No. of auxiliary air compressors No. of stages Diameters Stroke Driven by

No. of small auxiliary air compressors No. of stages Diameters Stroke Driven by

No. of scavenging air pumps 1 Each Eng. Diameter 392 mm Stroke 300 mm Driven by Crank shaft

Diameter of auxiliary Diesel Engine crank shafts as per Rule Are the air compressors and their coolers made so as to be easy of access yes

R RECEIVERS:—No of high pressure air receivers 1 Each Eng. Internal diameter 190 mm Cubic capacity of each 20 Litres

Material Open hearth S.M. Steel Seamless, lap welded or riveted longitudinal joint Seamless Range of tensile strength 28 To 32 Tons per sq

Thickness 10 mm working pressure by Rules 96 ATs. No. of starting air receivers Internal diameter

Total cubic capacity Material Seamless, lap welded or riveted longitudinal joint

Range of tensile strength thickness Working pressure by rules Is each receiver, which can be isolated,

fitted with a safety valve as per Rule yes Can the internal surfaces of the receivers be examined yes What means are provided for cleaning their

Inner surfaces Opening of 120 mm dia. at one end. Is there a drain arrangement fitted at the lowest part of each receiver yes

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IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

HYDRAULIC TESTS:-

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS	16-8-20 4-5-21	42 ATS.	75 ATS.	R	Test Satisfactory
" " COVERS	-do- -do-	42	75	R	-do-
" " JACKETS	21-7-20 2-5-21	1	3	R	-do-
" " PISTON WATER PASSAGES					hot Cooled.
MAIN COMPRESSORS—1st STAGE	19-8-20 4-5-21	3 ATS	35 ATS	R	Test Satisfactory
" 2nd "	-do- -do-	17.5	35	R	-do-
" 3rd "	-do- -do-	70	140	R	-do-
AIR RECEIVERS—STARTING					
" INJECTION	13-4-21	70 ATS.	140 ATS.	R	Test satisfactory
AIR PIPES	16-8-20 4-5-21	70	140	R	-do-
FUEL PIPES	-do- -do-	70	140	R	-do-
FUEL PUMPS	-do- -do-	70	140	R	-do-
" VALVES	17-8-20 8-10-20	70	140	R	-do-
SILENCER					
" WATER JACKET	13-8-20 2-5-21	1	3	R	-do-
SEPARATE FUEL TANKS					

PLANS. Are approved plans forwarded herewith for shafting
(If not, state date of approval)

19/11/19

Receivers

7/6/20

Separate Tanks

SPARE GEAR 1. Main Bearing (2 halves). 1. Connecting rod bottom end bearing with bolts & nuts. 1. Gudgeon pin bearing. 1. Fuel Valve. 4. Pulverisers. 4. Fuel needles. 16. Main piston rings. Compressor piston rings 1st stage 8, 2nd stage 10, 3rd stage 12. 16 air valve rings for 1st & 2nd stage Compressor. 1. Suction & 1. Delivery Valve for 3rd stage Compressor. 2. Sets of Springs. 2. Main bearing studs. 1. Changer, 1. Suction & 1. Delivery valve for Fuel Pump.

The foregoing is a correct description.

Manufacturer.

Sulzer Frères
Société Anonyme

John P. H. Hoban

Dates of Survey while building
During progress of work in shops-- 20/7/20, 21/7/20, 13/8/20, 16/8/20, 17/8/20, 18/8/20, 19/8/20, 20/8/20, 25/8/20, 8/9/20, 1/4/21, 13/4/21, 25/4/21, 30/4/21, 2/5/21, 4/5/21, 20/5/21.
During erection on board vessel--
Total No. of visits

Dates of Examination of principal parts—Cylinders 2/5/21 4/5/21 Covers 2/5/21 4/5/21 Pistons 2/5/21 4/5/21 Rods 2/5/21 4/5/21 Connecting rods 2/5/21 4/5/21
THRUST.
Crank shafts 2/5/21 4/5/21 Thrust shaft FLYWHEEL
Tunnel shafts 2/5/21 4/5/21 Screw shaft Propeller Stern tube Engine seatings
Engines holding down bolts Completion of pumping arrangements Engines tried under working conditions
Completion of fitting sea connections Stern tube Screw shaft and propeller
Material of crank shafts S.M. INgot STEEL Identification Mark on Do. 3458 R 18/8/20 25/8/20 Material of thrust shaft Identification Mark on Do.
Material of tunnel shafts S.M. INgot STEEL Identification Marks on Do. R 2-5-21 4-5-21 Material of screw shafts Identification Marks on Do.

Is the flash point of the oil to be used over 150° F.

Yes

Is this machinery duplicate of a previous case

No

If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.) Auxiliary Engines Constructed under ordinary Survey. Materials and workmanship good. Full power trials in shops satisfactory.

The amount of Entry Fee ... £ 2 - 0 - 0 :
Special ... £ 30 - 0 - 0 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 25th April 1921
When received, 2nd May 1921

Committee's Minute

Assigned

FRI OCT 7 1921

W. G. Vallis

Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation